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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/690,721	10/18/2000	Allen Louis Gorin	2685/5702	3292

7590 07/29/2004

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EXAMINER

CHAWAN, VIJAY B

ART UNIT	PAPER NUMBER
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2654

DATE MAILED: 07/29/2004

5

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/690,721

Applicant(s)

GORIN ET AL.

Examiner

Vijay B. Chawan

Art Unit

2654

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2,3,4.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-28 are rejected under 35 U.S.C 103 (a) as being unpatentable by Gorin ("Processing of Semantic information in fluently spoken language", Proceedings., International Conference on Spoken language, 1996. ICSLP 96, vol.2, pages 1001-1004) in view of Ogden (5,651,095).

As per claims 1 and 26-28, Gorin teaches a method of task classification using morphemes which operates on the task objective of a user, the morphemes being generated by clustering selected ones of salient sub-morphemes from training speech which are semantically and syntactically similar, using meaningful fragments and combinations thereof, to perform the intended task (abstract, introduction, paragraphs 1 and 2).

Gorin teaches task classification using meaningful fragments and combinations thereof, to perform the intended task (abstract, introduction, paragraphs 1 and 2). However, Gorin does not specifically teach morphemes and submorphemes. Ogden teaches detecting morphemes in the user input (Col.2, lines 45-65) Therefore, it would have been obvious to one with ordinary skill in the art at the time of invention to use the inference engine of Gorin in combination of the use of morphemes as taught by Ogden, because, this would efficiently use the language (morphemes and sub morphemes) by using the within language prediction to improve automatic speech recognition.

As per claim 2, Gorin in view of Ogden teaches the automated task classification method of claim 1, wherein the morphemes include at least one of verbal speech and non-verbal speech (Ogden, Col.2, lines 47-65).

As per claim 3, Gorin in view of Ogden teaches the automated task classification method of claim 2, wherein the non-verbal speech includes the use of at least one of gestures, body movements, head movements, non-responses, text, keyboard entries, keypad entries, mouse clicks, DTMF codes, pointers, stylus, cable set-top box entries, graphical user interface entries and touch screen entries (Ogden, Col.2, lines 47-65).

As per claim 4, Gorin in view of Ogden teaches the automated task classification method of claim 1, wherein said morphemes are expressed in multimodal form (abstract, Gorin).

As per claim 5, Gorin in view of Ogden teaches the automated task classification method of claim 1, wherein the user's input communication is derived from the verbal and non-verbal speech and the user's environment (Introduction, Gorin, & Ogden Col.2, lines 47-65).

As per claim 6, Gorin in view of Ogden teaches the automated task classification method of claim 1, wherein the morphemes in the user's input communication are derived from the user's actions, including the user's focus of attention (Ogden Col.2, lines 47-65).

As per claim 7, Gorin in view of Ogden teaches the automated task classification method of claim 1, further comprising entering into a dialog with the user to obtain a feedback response from the user (Gorin, task and database).

As per claim 8, Gorin in view of Ogden teaches the automated task classification method of claim 7, wherein the user is prompted to provide a feedback response includes additional information with respect to the user's initial input communication (Gorin, task and database).

As per claim 9, Gorin in view of Ogden teaches the automated task classification method of claim 7, wherein the user is prompted to provide a feedback response that includes confirmation with respect to at least one of the set of task objectives determined in the classification decision (Gorin, task and database).

As per claim 10, Gorin in view of Ogden teaches the automated task classification method of claim 1, wherein the input communication is routed based on the classification decision (Gorin, task and database).

As per claim 11, Gorin in view of Ogden teaches the automated task classification method of claim 10, wherein the task objective is performed after the input communication is routed (Gorin, task and database).

As per claim 12, Gorin in view of Ogden teaches the automated task classification method of claim 1, wherein the method operates in conjunction with one or more communication networks, the communication networks including a telephone network, the Internet, an intranet, Cable TV network, a local area network (LAN), and a wireless communication network (Gorin, task and database).

As per claim 13, Gorin in view of Ogden teaches the automated task classification method of claim 1, wherein the method is used for customer care purposes (Gorin, task and database).

As per claim 14, Gorin in view of Ogden teaches the automated task classification method of claim 1, wherein the classification decisions and corresponding user input communications are collected for automated learning purposes (Gorin, task and database).

As per claim 15, Gorin in view of Ogden teaches the automated task classification method of claim 1, wherein the relationship between the generated morphemes and the predetermined set of task objectives includes a measure of

usefulness of one of the morphemes to a specified one of the predetermined task objectives (Gorin, task and database).

As per claim 16, Gorin in view of Ogden teaches the automated task classification method of claim 15, wherein the usefulness is a salience measure (Gorin, Salient phrase fragments).

As per claim 17, Gorin in view of Ogden teaches the automated task classification method of claim 16, wherein the salience measure is represented as a conditional probability of the task objective being requested given an appearance of the morpheme in the input communication, the conditional probability being a highest value in a distribution of the conditional probabilities over the set of predetermined task objectives (Gorin, Salient phrase fragments).

As per claim 18, Gorin in view of Ogden teaches the automated task classification method of claim 16, wherein each of the plurality of generated morphemes has a salience measure exceeding a predetermined threshold (Gorin, Salient phrase fragments).

As per claim 19, Gorin in view of Ogden teaches the automated task classification method of claim 1, wherein the relationship between the generated morphemes and the predetermined set of task objectives includes a measure of commonality within a language of the morphemes (Gorin, Salient phrase fragments).

As per claim 20, Gorin in view of Ogden teaches the automated task classification method of claim 19, wherein the commonality measure is a mutual information measure (Gorin, Salient phrase fragments, Salient grammar fragments).

As per claim 21, Gorin in view of Ogden teaches the automated task classification method of claim 19, wherein each of the plurality of generated morphemes has a mutual information measure exceeding a predetermined threshold (Gorin, Salient phrase fragments, Salient grammar fragments).

As per claim 22, Gorin in view of Ogden teaches the automated task classification method of claim 11, wherein the step of making a classification decision includes a confidence function (Gorin, Salient phrase fragments, Salient grammar fragments).

As per claim 23, Gorin in view of Ogden teaches the automated task classification method of claim 11, wherein the input communication from the user represents a request for at least one of the set of predetermined task objectives (Gorin, abstract, introduction).

As per claim 24, Gorin in view of Ogden teaches the method of claim 11, wherein the input communication is responsive to a query of a form "How may I help you?" (Gorin, abstract).

As per claim 25, Gorin in view of Ogden teaches the automated task classification method of claim 11, wherein each of the verbal and non-verbal speech are directed to one of the set of predetermined task objectives and each of

the verbal and non-verbal speech is labeled with the one task objective to which it is directed (Gorin, abstract, introduction).

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Baker et al., (5,210,689) teach a system and method for automatically selecting among a plurality of input modes.

Barry et al., (6,308,156) teach a microsegment based speech synthesis process.

Abe et al., (5,544,050) teach a sign language learning system and method.

Sakai et al., (5,337,232) teach a morpheme analysis device.

Tanaka et al., (5,062,047) teach a translation apparatus and method using optical character reader.

Kanaegami et al., (5,297,039) teach a text search system for locating on the basis of keyword matching and keyword relationship matching.

Arai et al., (6,173,261) teach grammar fragment acquisition using syntactic and semantic clustering.

Gorin (5,794,193) teaches automated phrase generation.

Gorin et al., (5,860,063) teach automated meaningful phrase clustering.

Emori et al., (5,619,410) teach a keyword extraction for Japanese texts.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vijay B. Chawan whose telephone number is (703) 305-3836. The examiner can normally be reached on Monday Through Thursday 7-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (703) 305-9645. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Vijay B. Chawan
Primary Examiner
Art Unit 2654

Vbc
7/20/04

VIJAY CHAWAN
PRIMARY EXAMINER